

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Establish
the California Institute for Climate Solutions.

Rulemaking 07-09-008

**REPLY COMMENTS OF THE UNIVERSITY OF CALIFORNIA
ON THE RULEMAKING TO CONSIDER ESTABLISHING
CALIFORNIA INSTITUTE FOR CLIMATE SOLUTIONS**



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I. INTRODUCTION

The University of California ("UC") respectfully replies to the Opening Comments submitted by the Parties in response to the September 25, 2007 *Order Instituting Rulemaking to Consider Establishing California Institute for Climate Solutions* ("Order"). Review of the Opening Comments reveals broad support for the proposed California Institute for Climate Solutions ("Institute," or "CICS") from a significant cross-section of stakeholders and interested Parties. The resounding message from supporting Commenters is that the proposal for the CICS is timely and addresses a critical State need. Also remarkable is the broad-based desire to participate in the work of the Institute. As UC indicated in its Opening Comments, we believe an Institute that includes work by a broad array of institutions will be stronger than one that taps expertise from only a single institution, and we therefore welcome the significant interest in participation.

UC urges the Commission to approve the proposal for the creation of the CICS, hosted at the University of California and funded at the proposed level of \$60 million per year for 10 years, for a total of \$600 million. It is clear that the Commission has the authority to do so and that the proposal as presented is not only just, reasonable and in the public interest, but a significant step to maximizing short and long-term ratepayer and societal benefits.

In developing a Sustainable Energy Roadmap (as described in UC's Opening Comments) and in initiating targeted research, education and training projects throughout the State, the CICS will play a major role in helping the State address the monumental challenge of mitigating climate change. The CICS will stimulate development of scientific and technological solutions to real problems related to mitigation of greenhouse gases, initiate and support research needed by decision-makers to guide development of effective policies, and enhance education and training of the next generation of professionals and workers in areas critical to the success of climate change mitigation. The CICS mission is specifically designed to enhance the constructive impact of current research undertaken by various academic institutions and by other public and private sector entities, to identify neglected areas of investigation and avoid duplication of current efforts.

A few Commenters also presented criticism and opposition. Some of the criticism and opposition addressed aspects of the initial proposal that have changed or otherwise been resolved as a result of discussions with those parties and as detailed in UC's Opening Comments. For example, several Commenters

noted that the Institute should draw upon the considerable and robust talent that exists at institutions throughout the State, and not just on UC expertise. UC's Opening Comments made it clear that UC's intent is for an inclusive Institute that would involve participation not only by UC campuses, but also by other academic and research institutions around the State, and that would bring together expertise from the academic, public and private sectors. UC's Opening Comments also clarified the intent that the CICS would select research and education projects through an open, merit-based, competitive peer review process, and that projects would be carried out at institutions throughout the State. It is our understanding that this clarification satisfactorily addressed the concerns that had been raised in this area.

Some Commenters also recommended changes in the governance structure that had been proposed initially, with a specific focus on the need for a more inclusive governing body and a streamlined structure. UC's Opening Comments provided a modified proposal for a governance and organizational structure, specifying that the governing board should include representatives not only from the California Public Utilities Commission (CPUC or the Commission) and UC, but also from private California research institutions, the CSU and Community College systems, other key government agencies (e.g., Cal-EPA, the California Resources Agency, the California Energy Commission and/or the California Air Resources Board), utilities, and other related industry sectors, with no single entity having a voting majority. Some Commenters suggested that the Governing Board also include representation from the consumer advocacy

and/or the non-government environmental protection community. UC is amenable to that suggestion. The modified structure proposed in UC's Opening Comments also suggested a consolidation of two of the committees that had been proposed initially, to streamline and simplify the organization.

Criticism leveled against the proposal and against UC in particular by some Commenters is not only unfounded but simply irrelevant and beyond the scope of this proceeding. In particular, the Greenlining Institute expressed grave concern over UC's ability to produce results that will benefit a broad economic, ethnic and geographic base of stakeholders. UC is committed to the same goals as the Greenlining Institute of providing opportunities to participate in and benefit from the work of the CICS for the most diverse population possible within California. The CICS will initiate and carry out research and education projects designed to mitigate emissions and climate change challenges faced by Californians across the socio-economic, ethnic, and geographic spectrum. UC's Opening Comments noted that these projects will be carried out at institutions throughout California, and suggested that a broad array of institutions, including the California State University and Community College systems, would be helpful in ensuring that the Institution's programs reach diverse communities. UC's Opening Comments also suggested that in the area of education, training, and outreach, in particular, the CPUC can, through its participation in governance and on-going oversight of the Institute, ensure that the degree to which a proposal includes outreach to diverse communities will be an important evaluation criterion in selection of projects.

The Greenlining Institute's criticism of UC is misplaced given the design of the CICS proposal and is entirely irrelevant to this proceeding. Consequently, the Greenlining Institute's request for hearing presents no material contested issue of fact for which hearings would be appropriate. The request for hearings is groundless, has no merit and should be denied.

One disappointing aspect of the Opening Comments was the opposition from the consumer advocate community, particularly, the Consumer Federation of California (CFC), the Division of Ratepayer Advocates (DRA) and The Utility Reform Network (TURN). It is baffling that the advocates for utility consumers in California would not welcome the CICS. The CICS will benefit utility consumers in California, in that it will leverage the benefits of current and future research, and will fill gaps in current programmatic efforts while maximizing both public accountability and public access to information that results from the collective climate change activities that are underway. Further, by having California's public research university system host CICS's centralized hub, by committing to on-going consumer protection oversight by the Commission, and by coordinating with other ongoing efforts, the CICS will enhance accountability and accessibility of both current and future work.

CFC, TURN and the DRA all put a great deal of emphasis on the need to control escalating energy costs. UC is profoundly concerned about this same problem. However, the long criticisms of the Commission for rate increases in various programs outlined in their comments have little or nothing to do with the

magnitude of any potential rate impact, program design or potential outcome of the CICS proposal.

TURN's comments are particularly disturbing for their apparent denial of the serious imperative to confront the impact and implications of climate change. For example, TURN states: "The Commission needs to remember, though, that whether for noble "green" efforts or to fund corporate jets for the utility, the rate increases are largely indistinguishable from the perspective of a utility customer facing a higher monthly bill." TURN Opening Comments at page 5. This statement appears to dismiss the very real and justifiable distinction between applying funds from utility rates to support a strategy aimed at preventing a potential global environmental disaster and using such funds to purchase a luxury item. UC submits that the Commission should ignore TURN's, CFC's and DRA's hyperbolic challenges to ratepayer funding for the CICS as misplaced vitriol on the subject of high energy rates.

Challenges have also been raised to the Commission's authority to act on the CICS proposal and to approve ratepayer funding for this effort. See Comments of DRA and CFC. UC submits that the Commission has broad and clear authority to approve both the proposal and the project funding at the level outlined in the Order. See, for example, Cal.Pub.Util. Code §§701, 740, 740.4. While beyond the scope of these Reply Comments, UC reserves the right to further address these arguments should the Commission find it necessary and sets a schedule for briefing of these issues.

CFC has posited a broad range of topics for which it requests evidentiary hearings. CFC Opening Comments at pages 17 and 18. This request does not meet the standard for a request for hearing as outlined in the Commission's September 25, 2007 Order. R.07-09-008 at page 11. CFC restates its argument that the proceeding is more appropriately categorized as "adjudicatory." The Commission has already ruled on that argument and reaffirmed its categorization of this proceeding as "ratemaking." See Assigned Commissioner's Ruling, November 1, 2007. CFC's list of "adjudicatory" facts on which it claims hearings are required is pure restatement of legal argument already presented. CFC's legal challenge fails to properly state a material contested issue of fact for which hearings are necessary nor does it present any offer of proof to identify evidence it intends to offer as required by the Commission in support of any request for hearing. Moreover, CFC acknowledges that it cannot even anticipate what evidence might be offered in the proceeding. CFC Opening Comments at page 17. Consequently, there are no controversies of material fact stated by CFC or any party that are relevant in this case. As such, no hearings are necessary and the Commission should deny any requests for evidentiary hearings in this proceeding.

Procedural proposal:

UC proposes that the Commission underscore the potential benefits to and protections for consumers in this proceeding by taking one or both of the following procedural steps prior to final decision:

Workshop: UC proposes that the Commission consider convening a one-day, facilitated workshop and/or a round of comments designed to develop further detailed guidelines on appropriate continuing oversight activities and related reporting obligations for the duration of the funding authorization. The specific agenda should be:

1. the appropriate ratemaking mechanism for inclusion of CICS funding in utility rates
2. the appropriate account tracking mechanism for each annual funding allocation as well as any short-fall or rollover of funds from year to year, i.e., balancing accounts, tracking accounts or other mechanism
3. the appropriate annual program and accounting reporting required of the CICS and the utilities to provide the Commission with information needed to perform continuing oversight for the ten year term of the funding authorization.

Start-up Committee: UC proposes that the Commission's authorization order explicitly approve the proposed CICS mission, funding, governance structure, ratemaking and oversight requirements. The Parties have contributed many important and insightful suggestions addressing, for example, research priorities, program design, and strategies for education and outreach to a broadly diverse spectrum of California communities. UC would like to emphasize that consideration of the merit of most of these suggestions is appropriately handled by the CICS itself following start-up of its strategic Road mapping work. That is,

matters such as specific proposed areas of research focus should be considered in the actual strategic planning performed by the assembled subject matter experts as the initial project of the CICS, rather by the Commission at this authorization stage.

UC recognizes, however, that it may be useful for the Commission and the Parties to have a specific mechanism for feedback on how to identify those proposals and issues that should be brought to the Institute for priority consideration and action in the initial stages of implementation. In this context, UC proposes that the Commission consider authorizing a time-limited start-up committee for the CICS that will recommend the initial administrative activities necessary to implement the CICS proposal. The start-up committee could provide a focal point for efficient and effective implementation of the proposal as well as a point of contact between the Commission and the CICS in the initial stage of the CICS activities.

II. Comments on Rulemaking Questions

- 1. Is there a need for the kinds of research and educational programs outlined in the proposal?**
- 2. If so, should they be centralized in a manner similar to that described in the UC proposal?**

Review of the Comments reveals that the majority of stakeholders agree with UC that there is a pressing need for the kind of research and educational programs outlined in the CICS proposal. There is also broad interest in participating in any centralized umbrella organization as outlined for the CICS in UC's Opening Comments, where a hub will provide centralized coordination,

facilitate cross-communication within the research community and promote broad public dissemination and education, but where specific research and education projects will be carried out at institutions across the State. Commenters with reservations regarding centralization all pointed to the need for greater detail on governance structure. UC's Opening Comments have provided that detail and were developed in consultation with the academic institution Parties in this proceeding. Stanford University Opening Comments at pages 3-5; USC Opening Comments at page 3; CSU Opening Comments at pages 10-12, California Community College System, Letter of Support, Attachment 1 to UC Opening Comments; CalTech/JPL Opening Comments at page 3; SDG&E/SCG Opening Comments at pages 4 – 6; PG&E Opening Comments at pages 4-5; Edison Opening Comments at pages 4-7; NRDC Opening Comments generally ; ED Opening Comments at page 2; ; CEC Opening Comments at pages 3-4; Morrison & Foerster at pages 4-5.

In its Opening Comments, Morrison & Foerster provided detailed comments on potential organizational structures for the CICS. While those comments provided many useful possibilities, UC continues to support the initial proposal that the CICS be a UC-hosted Institute. This is the most time and cost efficient vehicle for getting the work of the CICS underway, and also provides public and consumer accountability by placing the Institute's hub within the State's public research university system. Hosting the Institute at UC will allow it to take advantage of the University's existing human resources, payroll, and other infrastructure, saving startup time and costs. As discussed more fully

below, UC anticipates that it could operate the Institute's hub (carrying out administration and centralized program functions such as hosting conferences) with about 10% of the total annual CICS budget. The remaining 90% of the budget would be devoted to research and education initiatives to be conducted at institutions throughout the State, to be funded primarily through a competitive peer reviewed grant program.

3. Is the budget identified in the UC proposal reasonable given the goals of the institute?

UC has proposed a budget of \$600 million over ten years, a funding level that we believe is reasonable given the magnitude of the climate change challenges faced by the State and given the goals and scope of the proposed CICS. As significant as this funding level is, it is certainly not nearly enough to address the State's climate change mitigation needs (UC's Opening Comments noted that \$600 million is less than one half of one per cent of what California is likely to need to spend to stabilize the climate), nor is it enough to meet more than a small part of the State's needs for research and development in this area. Indeed, we note that in its Opening Comments, the University of Southern California proposed that a more realistic budget would be on the order of \$700 million over ten years (USC Opening Comments, Page 4). USC is correct to point out that with a \$600 million budget, the Institute will not be able to take on all of the various areas of research and education focus that have been put out for consideration by the various Parties to this proceeding. This why it is so

important to develop a Sustainable Energy Roadmap as the Institute's first task. The Roadmap will identify areas of critical need and will guide the Institute in developing a strategic plan that allows it to wisely focus its available resources on areas likely to have the greatest impact.

4. What role should the California Public Utilities Commission (CPUC) play in overseeing climate-change related research and educational programs, and how should the CPUC coordinate efforts with other state agencies?

UC shares the concern of other Parties that the CICS not duplicate the significant and ambitious efforts already underway throughout the state within government, public and private academic institutions and various programs designed to meet the goals targeted in AB 32. UC agrees that there is a need for coordination and that the CICS should not duplicate the current, ongoing efforts. UC points to the following elements to address these concerns.

- 1) A Sustainable Energy Roadmap is needed to avoid duplication and ensure that the CICS focuses on real areas of need. The CICS's road mapping work must inventory and assess current RD&D and education/workforce efforts related to climate change, identify gaps and synergies between current efforts and target future programs for CICS support. It will take into account the ongoing strategic planning efforts of other agencies, like PIER. The Research and Education Strategic Committee charged with developing the Sustainable Energy Roadmap will include appropriate experts involved in related state agency efforts, and the Governing Board responsible for approving the

Roadmap and the Institute's research and education agenda will have CPUC leadership and agency representation, which will facilitate coordination. The Institute's strategic plan and its annual research and education agenda will be required to conform to the Sustainable Energy Roadmap. UC agrees that avoidance of duplication is a foundational principle in developing the Institute and guiding its work.

- 2) The Governing Board will include CPUC leadership, as well as representatives from other state agencies, research institutions, and other stakeholder groups. This structure is designed to facilitate coordination among state agencies and other stakeholders, and avoid duplication of effort. The proposed governance of the Institute has been streamlined to focus the Institute on its key mission: strategic planning, research and education, and dissemination and transfer of knowledge about the science of climate change. Through its key role in governance of the CICS, as well as through the regular reports it will receive from the CICS, the CPUC will be apprised of all activities of the CICS, and can act as a liaison and promote coordination with other state agencies.
- 3) The CICS can play an important role in helping to fill in gaps not targeted by more narrowly focused programs. Efforts underway in program-specific contexts may overlook promising areas of investigation because, for example, they did not fit the guidelines of current legislation or government agency mandates. The CICS will not

only build upon the results of the robust efforts underway, but through its dissemination and education efforts, can help make those results accessible and useful. UC's commitment in the CICS proposal is to catalyze strategies for policy, education, training, and individual consumer choices so that research results are put to work in science-based solutions. This will require coordinating with other entities and agencies conducting related work. UC is committed to this principle and would welcome its inclusion in any guidance order or direction from the Commission.

- 5. How should climate change-related research and education programs like those identified in the UC proposal be funded? Should programs be funded through a rate surcharge?**
- 6. If so, is an equal cents per kilowatt hour and/or equal cents per therm rate mechanism the appropriate way to distribute the costs of funding the proposed institute?**
- 7. Are there other funding sources, public or private, that should contribute to the institute?**

Although UC is not putting forth a specific ratemaking proposal, UC does believe that ratepayer funding is appropriate. Not only do ratepayers themselves bear responsibility for a significant portion of the greenhouse gases produced through the consumption of electricity and natural gas, but by including ratepayer funding the CPUC assumes overall responsibility and accountability for the CICS. UC firmly believes that the CICS, with its strong public-purpose mission, should be overseen by a state agency that has a consumer-protection mandate. It is a natural pairing for a public purpose program.

Several Commenters stated their belief that investor-owned utility (IOU) customers should not provide the only funding source for the CICS efforts. UC agrees that there should be other sources to supplement the funding of the CICS, and that other appropriate potential sources include matching grants, private partnerships, federal funding, and contributions from municipally-owned utilities. CICS can and should seek additional funding in carrying out its program administration responsibilities.

Some Commenters have pointed to other possible vehicles for funding (e.g., through legislation). However, the need for more diversified funding is not a reason to not launch the CICS. Rather, successful creation of the CICS is far more likely to result in additional funding than a diffuse legislative campaign. To meet the State's ambitious emissions reduction goals, it will be important to get additional funding from other affected segments of our economy.

8. Should shareholders bear some portion of the cost of funding the institute, and, if so, how should the contribution be structured?

As stated in UC's Opening Comments, UC does not have a position on this matter.

9. How should funds be allocated between administration, technological research, public policy research, and educational programs?

The Opening Comments show that there is some lingering confusion about the level of financial support UC proposes for the administration of the CICS. To

clarify, it is UC's proposal that the \$600 million, ten-year budget for the CICS be allocated approximately as follows:

- **Research & Education Programs – 90%:** 90% to support research and education initiatives carried out at institutions throughout the state (largely through competitively awarded grants), to further the Institute's mission.¹
- **Administration of CICS Hub – 10%:** 10% to support the Institute's hub or center. This would include salaries for the Director and necessary Institute staff (as approved by the Governing Board), the space in which the central Institute activities would be conducted, the costs of hosting meetings, conferences and colloquia, the costs of administering the competitive peer reviewed grant program, the cost of publishing newsletters and reports, and the costs of conducting workshops for policymakers, the public and industry.

This more general breakdown should be considered to replace the rough preliminary budget provided in UC's initial proposal, which we understand may have been the source of some confusion with respect to costs of administration. The 10% figure cited above and in UC's Opening Comments is UC's estimate for a reasonable proportion of the CICS budget that should be devoted to

¹ As detailed in UC's Opening Comments, UC believes it is appropriate for some amount (up to approximately 15% of the total budget) to be devoted to purchase of major equipment necessary to facilitate the conduct and coordination of work of the Institute's various partners, in direct support of the Institute's mission. It is anticipated that both research and education grants and equipment grants would be awarded primarily on a competitive basis, and that the specific allocations would be based on priorities determined pursuant to the Roadmapping process.

administering the work of the CICS hub. Some Commenters suggested a higher or lower percentage – e.g., Morrison & Foerster noted that a figure of 12% - 15% would be appropriate based on experience representing other administrators of grant programs. The University of Southern California suggested a figure of 5%. It is not clear whether all Commenters had the same understanding of what work would be carried out at the Institute's central hub, which is why we have provided the descriptive breakdown above. It is UC's belief that the 10% figure is prudent and reasonable in light of the activities envisioned for the CICS hub.

The cost of administering the Institute's hub should be distinguished from the costs incurred by institutions carrying out the research and education projects under CICS awards. UC's presumption is that institutions carrying out research and education projects with the CICS awards would receive funding for the real and documented direct and indirect costs incurred in carrying out those projects, just as they do under other Federal and State research grant programs. The 26% indirect cost figure cited in UC's original proposal has been the source of some understandable confusion. That rate is a federally-approved and audited rate applicable to certain off-campus work that UC campuses perform under federal awards. UC is NOT proposing that 26% of the CICS budget be spent on administration of the CICS hub – our proposal is that 10% is an appropriate allocation for that purpose. In the more inclusive vision for the Institute presented in UC's Opening Comments, research and education projects will be conducted at institutions around the State, not only at UC campuses. Institutions submitting proposals in response to CICS solicitations will include proposed

budgets, which will presumably be based on the documented costs of conducting research at those particular institutions. The 26% rate cited in the initial UC proposal was not meant to be applied as an across-the-board figure for research conducted at all institutions, nor was it meant to describe the baseline requirement for the CICS hub itself.

With respect to more specific allocations, UC's Opening Comments provided our observations on the importance of the different areas to be funded. Technological scientific research (including developing new technologies and tools for assessing and reducing greenhouse gases and mitigating climate change) is critical, and can be costly, and so will likely merit significant investment. Policy, management and social science research can be less costly, but is also an important part of the Institute's mission. And education, workforce training and public outreach /dissemination of knowledge are areas where the Institute can really make a unique contribution and impact, since there is no current significant, targeted funding for these functions.

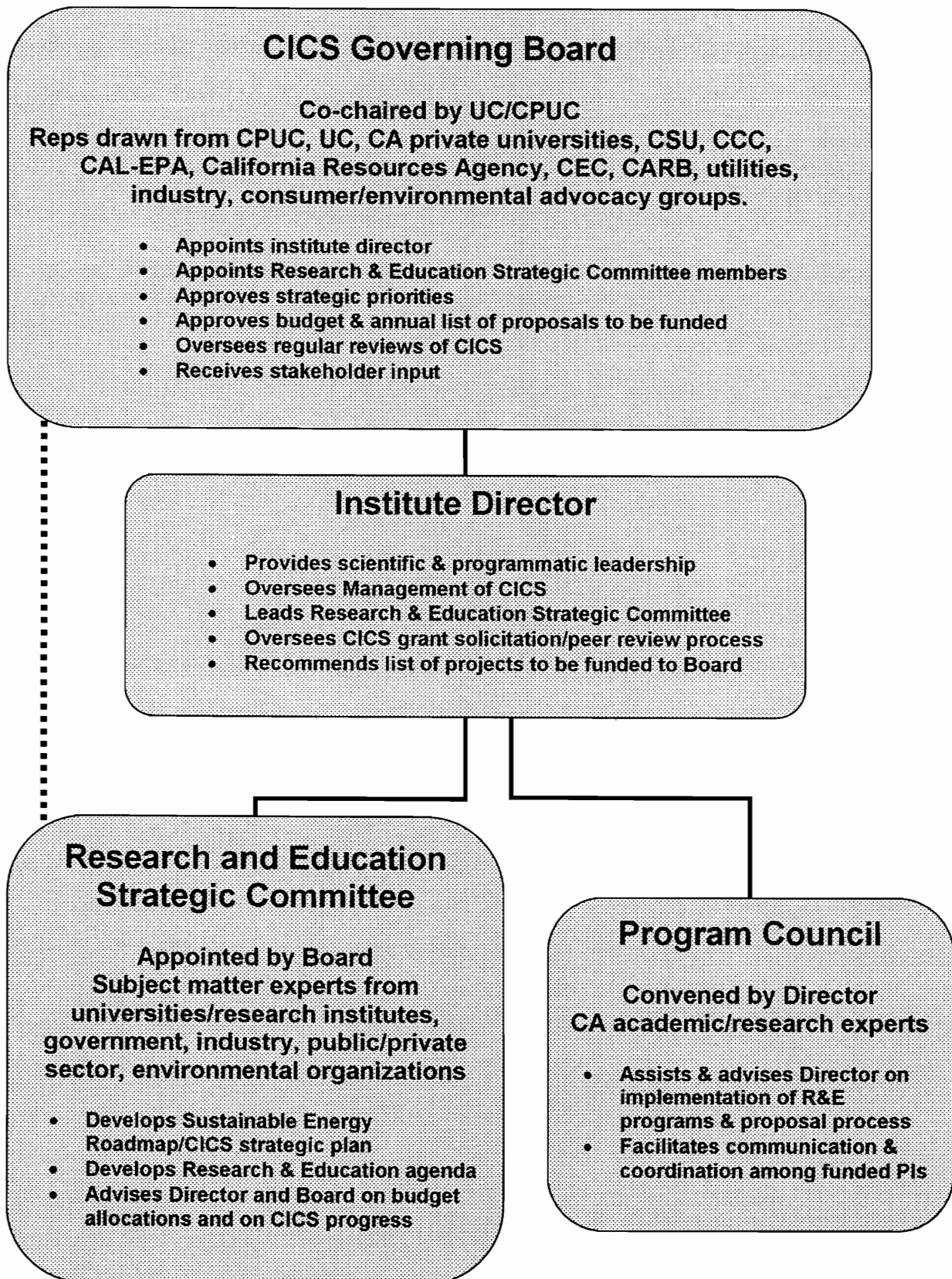
UC strongly urges the Commission to direct that the subject matter experts of the Research and Education Strategic committee recommend the research priorities and funding allocation among targeted areas (for final approval by the Governing Board), after having received and considered input during the Roadmapping process. We therefore suggest that it is not appropriate for the Commission to adopt a detailed prescriptive allocation scheme in its funding authorization. UC proposes that the Commission consider the proportionate levels outlined above between administration and core

research and education program functions, and if necessary, use this structure as a guideline in the final funding authorization.

10. How should the proposed governance structure be organized so that the Commission maintains enough control to ensure that ratepayer funds are allocated so as to maximize ratepayer benefits?

11. What performance measures or other general guidelines should be placed on funding to ensure that funds are used efficiently and in a manner that maximizes ratepayer benefits?

In its Opening Comments, UC presented a revised governance structure for the CICS. Details of this revised proposed structure are provided in Attachment 2 (Pages A1 – A9) of UC’s Opening Comments, which should serve as a reference regarding UC’s vision for the CICS organizational structure. Under this proposal, the governance would consist of an overarching Governing Board (co-chaired by the CPUC) that hires the Institute Director, sets priorities, approves the budget, and ensures ongoing review of Institute activities. Under the Governing Board, two committees would provide strategic and technical advice and assistance with program implementation.



The Opening Comments from other parties generally support this leadership role for the CPUC on the Governing Board. As co-Chair of the Governing Board, the CPUC will play an important role in setting the Institute's strategic plan and its annual research and education agenda.

In addition, UC has proposed that the Institute be required to submit regular (at least annual) accountability reports to the Governing Board, the CPUC, and to the public. These reports can and should be designed to include information that will allow the CPUC to assess how ratepayer funds are being used for ratepayer benefit. Earlier in these Reply Comments, UC suggested that the CPUC consider conducting a facilitated, one-day workshop, where one of the focused topics would be evaluating appropriate accountability reporting mechanisms that would provide the Commission with information needed to perform continuing oversight over the ten-year term of funding. This reporting and accountability function is essential.

In addition, in its Opening Comments, UC proposed that the Institute be subject to regular independent reviews, a proposal that has been echoed by other Commenters (such as the California Council on Science and Technology). UC believes that such external review (which could be conducted by an entity such as CCST itself) would enhance accountability and transparency, and that it would be useful in allowing the Commission and others to assess the value to ratepayers and to the public of the Institute's research and education programs.

The governance of the organization, the provisions for accountability reporting and independent review, the competitive award process, and the receipt and consideration of input from stakeholders and the public, will ensure that ratepayer funds are allocated in a way that provides maximum benefits.

12. What should be the precise role of the proposed stakeholder committee in relation to the proposed steering committee?

As described in our Opening Comments, UC now proposes to combine the stakeholder and steering committees into the Research and Education Strategic Committee. Details about the proposed role for this Committee and for the Program Council were provided in Attachment 2 (Pages A1 – A9) of UC’s Opening Comments. Other parties expressed general support in their Opening Comments for this type of streamlining of the Committee structure, as well as for UC’s proposed inclusion of other research institutions, utilities, state agencies, and stakeholder groups in the governance of the CICS. UC has also proposed that the Governing Board be responsible for obtaining and considering broad stakeholder input before approving the Sustainable Energy Roadmap and before approving the Institute’s research and education agenda. This could be achieved via regular public meetings, in which consumers and advocacy groups, industry, public agencies, and others are encouraged to provide input.

13. How does the proposed institute relate to or complement other publicly funded research programs and facilities, such as PIER, Helios, or the Energy Biosciences Institute?

14. If the Commission decides to fund an institute like that described in the proposal, should the level of ratepayer funding that goes

towards other, related research and development programs decrease or change?

In its Opening Comments, UC acknowledged the significant work being done through PIER, Helios, and EBI, as well as elsewhere, and noted that we anticipate that the Institute's work will complement and build upon those efforts. (Also, please see our answer to Question #4, above, regarding coordination with other agencies to avoid duplication).

While significant, the Institute's proposed funding level will not be enough by itself to meet the State's needs for research and development programs designed to address emissions and climate change challenges. Therefore, we do not believe that there should be a diminishment in level of funding provided for other R&D programs as a result of funding provided to the Institute. We note that a number of other parties expressed the same view on this point (see, e.g., Opening Comments of NRDC; USC; CSU, Morrison & Foerster).

The fact that there are other efforts under way to address some aspects of the problem of emissions and climate change does not mean that the State's needs are being adequately addressed. In its Opening Comments, the Consumer Federation of California (CFC, p. 8 - 12) made an effort to identify sections of the California Codes where the mission of the CICS may overlap with the work of State agencies. To the CFC list should be added Public Resources Code § 25620 (The Public Interest Energy Research program), Health and Safety Code § 44270 et seq. (California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act), and Public Utilities

Code § 387.5, § 2851, and § 2827 (California Solar Initiative). In addition, we know of (and, indeed, UC faculty are involved in) many other efforts, some of which have been cited by other Commenters (e.g., the California Farm Bureau Federation cited Health & Safety Code § 38591, which pursuant to AB 32, requires the California Air Resources Board to appoint an Economic and Technology Advancement Advisory Committee to advise on investments in and implementation of research and development opportunities that can assist in emission reduction).

The CFC position seems to be that, if a problem is addressed in the California Codes, then the funding must be adequate and any additional efforts would be duplicative. But, as many of the Parties point out, climate change poses huge technical challenges. Far greater resources than are being deployed today will be needed to meet these challenges. However, it is certainly the case that close coordination among the CICS and other programs is essential to maximize the effectiveness. For this reason, in addition to the CPUC's position as a leader of the Governing Board, UC has proposed that other key State agencies—such as Cal-EPA, the California Resources Agency, the California Air Resources Board and the California Energy Commission— be represented on the Board. This engagement at the Board level will lead to engagement at the working level in advisory committees and review panels and will strengthen an already existing network of relationships among university researchers and State agency personnel. In addition, close coordination with other agencies during the process of developing the Sustainable Energy Roadmap will ensure that there is well-

informed and careful consideration of potential areas of overlap so that the Institute can focus its work on areas of need not being adequately addressed through other efforts.

15. What additional priority program areas for research and education should be added to those outlined in the proposal?

UCs Opening Comments reiterated the specific areas identified in UC's initial proposal (attached to the CPUC's Order Instituting Rulemaking as Appendix A) as research and education priorities. UC continues to believe that these are important areas that should be considered in the development of the Sustainable Energy Roadmap and the Institute's own strategic plan. However, UC acknowledges that other good suggestions have been put forth in Opening Comments submitted as part of this proceeding, which complement and add to the areas identified in UC's initial proposal. For example, Commenters have variously suggested that the Institute consider projects that take advantage of satellite observations and measurements and regional modeling (which could tie in with our previously proposed areas of climate forecasting and analysis, measurement and informatics, and health and environment); projects that research the effectiveness of educational programs aimed at changing consumer and industry behavior; and projects that investigate climate impacts on the underserved. All are good suggestions that merit further consideration.

The Institute's specific priority research and education areas should, ultimately, be determined through the process of developing a Sustainable Energy Roadmap and a focused CICS strategic plan. The Institute's Research

and Education Strategic Committee should consider (a) all issues that have been put forth in this proceeding, (b) input from other stakeholders and experts, and (c) climate change research results at the national and international levels that have particular relevance for California. The Committee would regularly recommend to the Governing Board a set of priority areas that should be the focus of the Institute's research and education program agenda.

16. Given that it is the Commission's intent to draw on the resources of not only UC, but also Cal Tech, Stanford, USC, California State University and the Community College systems, is the organizational structure described in the proposal a suitable framework to efficiently and effectively coordinate this kind of broad participation?

UC's Opening Comments put forth a revised proposal for an organizational structure, one that includes participation not only by UC but also by the major California private research universities and by the California State University and Community College systems as well. UC has been in communication with all of these institutions, and is pleased to have received support from all of them for the proposed CICS. A joint letter of support from the Presidents and Chancellors of all six institutions was submitted with UC's Opening Comments (as Attachment 1). We are committed to working together as the proposal moves forward to ensure that the Institute will benefit from the joint expertise of the State's major research universities and public institutions of higher education. We believe that there is broad agreement that the organizational structure described in UC's Opening Comments does, indeed, provide a suitable framework for coordinating broad participation.

17. How can the Commission ensure that the Institute's educational outreach and worker training programs reach diverse communities in California?

UC is committed to creating an Institute that provides educational outreach and worker training programs that reach diverse communities, benefiting Californians across the socio-economic, ethnic, and geographic spectrum. The participation of the representative academic institutions at every level of post-secondary education that are parties to this proceeding all but guarantees that the best resources available will be utilized.

With respect to educational outreach and workforce education and training, we anticipate an important role for the California State University and Community College systems, both of which have large and diverse populations and extensive geographic reach throughout the State. Many thousands of the building managers, technicians, and other workforce members who will be critical in implementation of large scale changes related to sustainability will be trained at these institutions, which also serve as important pipelines that bring diverse populations of students to UC and to private research universities.

As has already been noted above and in UC's Opening Comments, one mechanism for ensuring outreach to diverse communities is including it as a criterion in the evaluation and selection of education and training proposals. That is, in setting up a system for judging proposals submitted through the peer review process, the Institute can use as one criterion the degree to which a proposal addresses the need to reach diverse communities. UC is committed to creating

an Institute that reaches out to and serves the needs of the broadest possible spectrum of diverse communities across the State.

18. If research conducted by the Institute results in profitable technologies or patents, should some portion of the profits be used to reimburse ratepayers for the cost of the research? If so, how should this be structured?

From the Opening Comments, it is apparent that there is a strong consensus among the academic partners who will carry out the bulk of the Institute's research agenda that:

- A) It is important to structure the Institute so that its research and education programs benefit the ratepayers and the public;
- B) A requirement that there be reimbursement to ratepayers may prevent the Institute from operating to its maximum potential; and
- C) In order to leverage Institute funding with Federal funds to augment the Institute's research, the Institute's policies regarding inventions and patents should mirror the Federal Bayh-Dole Act (which does not require reimbursement, and which requires that income from any profitable intellectual property be re-invested in research and education.)

As Caltech pointed out in its Opening Comments, California's research universities and National Laboratories lead the country in transferring technology to the marketplace, and California (and the public) directly benefits from this entrepreneurial activity. The successful model of the Federal Bayh-Dole Act has been in place for almost three decades and was instrumental in spurring innovation that has benefited the economy throughout the nation. The Bayh-

Dole Act provides a consistent set of well-understood rules regarding ownership of Federally-funded inventions and the rights and obligations thereof.

Caltech rightly points out that a new layer of regulation on this process would create significant disincentives for collaborations and could make it difficult for researchers funded by the Institute to leverage their Federal research support to enhance their Institute-supported research. This point was also made by Stanford, which noted that failure to follow the Bayh-Dole model would reduce the effectiveness of the Institute. Any Institute policies that are inconsistent with the Bayh-Dole Act would preclude universities and research institutes from leveraging their Federal research support.

A few Commenters did endorse the reimbursement idea put forth by Question #18, as a means of ensuring that ratepayers benefit from the Institute's research. (See. e.g., Opening Comments of PG&E, Southern California Edison). However, UC posits that the Institute's primary benefit to ratepayers and to the public will be reducing greenhouse gases and mitigating the impacts of climate change; providing outreach, workforce training and education that make the fruits of research accessible and usable by the public, and stimulating the development of new tools, technologies and services that can be put into practice to mitigate the effects of climate change. We believe the ratepayer and public interest would be better served by invention policies that promote collaborations, facilitate leveraging of federal funds, and that do not serve as disincentives to potential industry partners who may need to invest substantial resources into developing technologies that can be utilized by the general public. Both the inventing

research institution and the industry partner take on substantive risk in developing and commercializing a technology, with the hope that the successfully commercialized technologies help to offset the costs of those that are not successful due to technical hurdles or low market demand, for example.]

From the Opening Comments on this point, there appear to be inconsistent understandings about the appropriate role of the CICS in technology transfer. One comment (from Morrison & Foerster) speculated that the Institute could, potentially, need its own technology transfer office, and another comment (from Southern California Edison) noted that the Institute might consider using Institute funds to pay for patent expenses to protect technologies resulting from Institute funding. UC agrees with the suggestion made in the University of Southern California's Opening Comments, that technology transfer should be a decentralized activity as encouraged under the Bayh-Dole Act, with each institution that participates in carrying out Institute research using its own resources for technology transfer to quicken the impact of the Institute's work, having the freedom to license technologies for the public benefit without being subject to ratepayer reimbursement requirements, and reinvesting any net revenues into research and education. We believe this would be the most effective and efficient way to facilitate transfer of the research initiated and supported by the Institute into the marketplace, and the best way to promote longterm ratepayer and public benefit.

III. CONCLUSION

The University of California is confident that creation of the California Institute for Climate Solutions will serve the public and ratepayer interest by providing high quality research, education and training, and dissemination/outreach activities designed to aid the State in achieving its emissions and climate change mitigation goals. UC stands ready to work with the CPUC and with other interested parties and stakeholders to create and host an Institute that is tailored to meet State needs and that will coordinate with related efforts conducted by other agencies and institutions.

For all the foregoing reasons, UC urges the Commission to authorize creation of CICS as proposed with a funding level of \$60 million annually over ten years. UC further requests that the Commission adopt the procedural proposals presented above herein for the remainder of the proceeding. Finally, UC urges the Commission to deny the requests for hearings as presented by Greenlining and CFC.

Respectfully submitted,



President
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Represented before the CPUC by:

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November 19, 2007

CERTIFICATION OF SERVICE

I, Lucy Adams, hereby certify that, on November 2, 2007, I caused a copy of the foregoing document, entitled:

**COMMENTS OF THE UNIVERSITY OF CALIFORNIA ON THE
RULEMAKING TO CONSIDER ESTABLISHING CALIFORNIA
INSTITUTE FOR CLIMATE SOLUTIONS**

to be served on the parties to this proceeding by electronic mail to the electronic mail addresses on the service list maintained on the Commission's Web site for this proceeding, as indicated on the following page. First class mail will be used if electronic service cannot be effectuated.

I certify that the above statements are true and correct.

Dated:, November 2, 2007, at Oakland, CA.

A handwritten signature in cursive script, appearing to read "Lucy Adams", is written over a horizontal line.

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